User Manual of Color Camera

Version 2.1

Thank you for purchasing our product. If there is any question or request, please do not feel hesitated to contact us.

This manual may contain several technically incorrect places or printing errors, and the content is subject to change without notice. The updates will be added into the new version of this manual. We will readily improve or update the products or procedures described in the manual.

Security Awareness

This manual contains several guidelines for all customers' demand. Please read it carefully before operating to ensure that you can use this product correctly and safely， and to avoid the danger or material damage which may cause otherwise. Please preserve it well for future reference.

The precaution measure is divided into "Warnings" and "Cautions" as below:

Warnings: Serious injury or death may cause if any of the warnings is neglected.

Cautions: Injury or equipment damage may cause if any of the cautions is neglected.

Warnings Follow these safeguards to prevent serious injury or death.	**Cautions** Follow these precautions to prevent potential injury or material damage.

 **Warnings：**

1. Input voltage should meet both the SELV(Safety Extra Low Voltage) and the Limited Power Source with AC 24V or DC 12V according to the IEC60950－1 standard. Please refer to technical specifications for detail information.
2. If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. Users are responsible for any problem caused by modifying or repairing without authorization.
3. The operating environment shall be away from rain or moisture to lower the danger of fire or shock hazard.
4. The camera should be installed by qualified technicians, and comply with local laws and regulations.
5. Precautions for short circuit are required for installing.
6. Instructions for installation on walls: Please make sure that the camera can endure at least 50 Newton (N)'s pulling downward.

Cautions：

1. Make sure the power supply voltage is correct before using the camera.
2. Do not drop the camera or subject it to physical shock.
3. Do not touch CCD (Charge Coupled Device) modules with fingers. If cleaning is necessary, use clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period, please turn on the lens cap to protect the CCD from dirt.
4. Do not aim the camera at the sun or extra bright places. A blooming or smear may occur otherwise (which is not a malfunction however), and affecting the endurance of CCD at the same time.
5. The CCD may be burned out by a laser beam, so when any laser equipment is on using, make sure that the surface of CCD will not be exposed to the laser beam.
6. Do not place the camera in extremely hot, cold(the operating temperature shall be－10℃～＋60℃), dusty or damp locations, and do not expose it to high electromagnetism radiation.
7. To avoid heat accumulation, good ventilation is required for operating environment.
8. Keep the camera away from liquid while on using.
9. While on a delivery, the camera shall be packed in its original packing, or packing of the same texture.
10. Regular part replacement: a few parts (e.g. electrolytic capacitor) of the equipment shall be replaced regularly according to their average enduring time. The average time varies because of differences between operating environment and using history, so regular checking is recommended for all the users. Please contact with your dealer for more details.

Index

Chapter 1 Brief Introduction

1.1 Introduction

This color camera with advanced circuit designing incorporates a CCD module that offers high sensitivity. It is ideal for surveillance and video processing systems, and provides excellent performances such as high resolution, low distortion and low noise, etc.

The camera incorporates extraordinary features as below: Compact Structure Design

- 1/3 Inch SONY CCD
- Day / Night with Auto Switch
- Auto White Balance, Auto Gain Control, Electronic Shutter Control, and Backlight Compensation
- Flickerless Mode
- Digital Signal Processing
- Auto Iris with DC / Video Driver
- CS Mount Lens (Provide Optional Adapter for C Mount Lens)
- Internal Synchronization
- Advanced 3-axis mechanical design enables the camera to meet the installation requirement from different environment by flexibly adjusting the lens into the require angle (Only DS-2CC511/591P-A Support)
- Advanced double board design enables heat dissipation and quality of the images

1.2 Introduction to the Camera Appearance

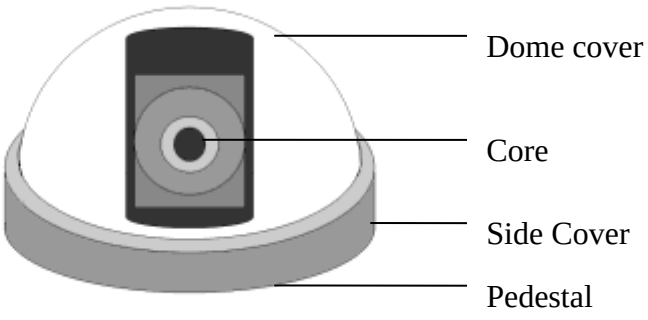
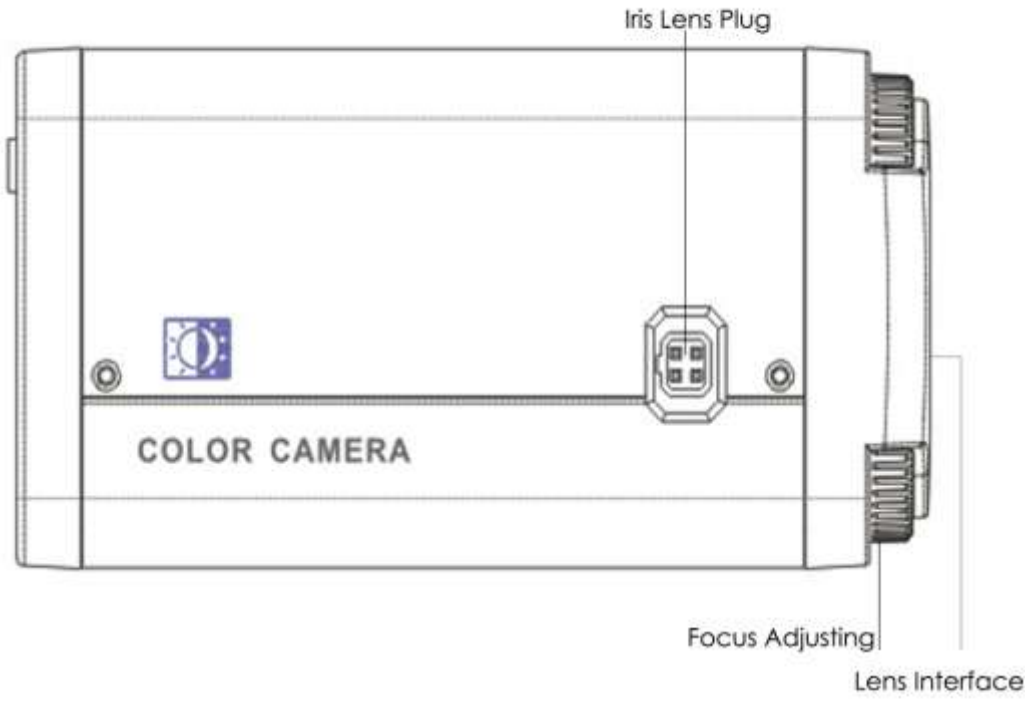
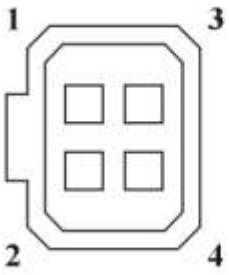


Figure 1

To open the dome cover, put one of your hands on the pedestal to stabilize it, and rotate the side cover in anticlockwise direction with the other hand.

1.3 Side Elevation of the Camera





	Video	DC
1	Power	Damp-
2	NC	Damp+
3	Video	Driver+
4	GND	Driver-

Figure 2

Please pay attention to the connection mode for different drive iris lens plugs as Figure 2. The lens interface is standard CS mount. The  mark in the camera stands for day/night working.

[Notice] Different models may have different side elevations, please see the real.

1.4 Introduction to the Rear Panel of the Camera

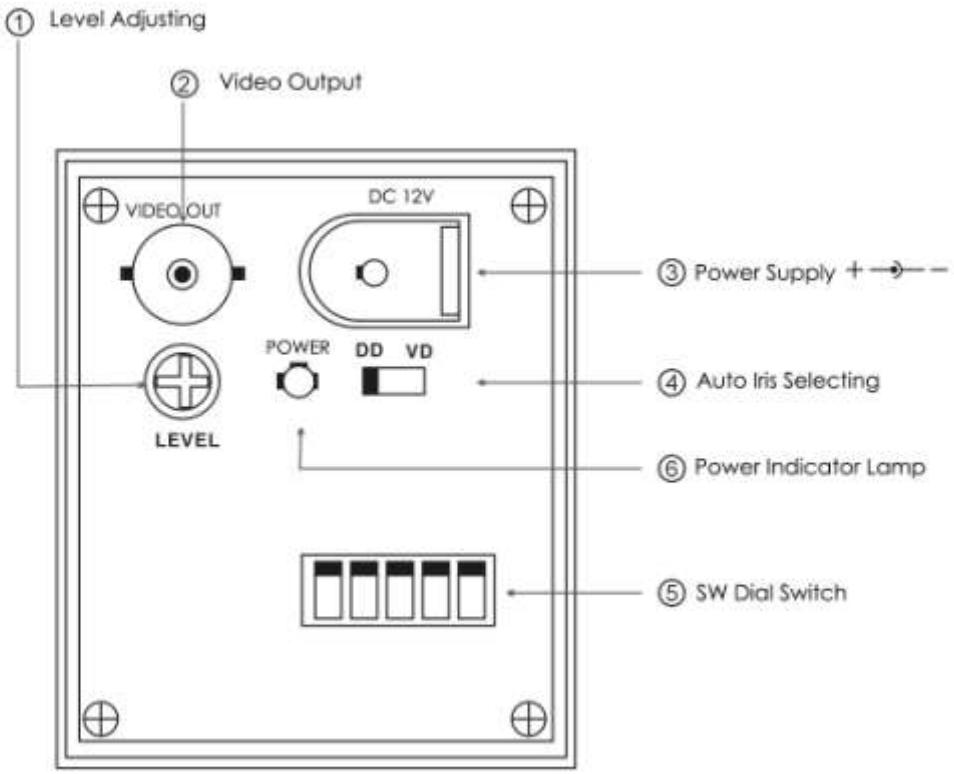


Figure 3

①Level Adjusting：

Level adjusting is valid for iris adjusting in DC drive mode，while invalid for Video drive mode.

④Auto Iris Selecting：

Auto iris lens of both Video and DC drive modes can match this camera. Please select DD mode for DC drive auto iris lens or VD mode for Video drive auto iris lens.

⑤SW Dial Switch Functions are listed as below.

NC	Invalid. Designed for extended use.
NAGC	Normal AGC: Normal automatic gain control. The gain is about 30dB when turned on.
SAGC	Super AGC：Super automatic gain control. The gain is about 60dB when turned on.
MIRROR	The image will be reversed horizontally with this function on.

FL	Use it to avoid the spot caused by different circuit power.
BLC	Back Light Compensation: Automatically adjust the exposure for back light compensation.
AI	Auto Iris：Turn the switch to AI for auto iris.
AES	Auto Electronic Shutter：Turn the switch to AES for non-auto-iris mode.
ECLIPS	Restrain the partly brightness to make other parts clear.
SHARP	To get sharper edges for images, turn on the SHARP function.
SOFT	To get softer edges for the image, turn on the SOFT function.

[Notice] Different models may have different rear panels, please see the real.

Chapter 2 Installation

Please check if all the items on the package list have been included with your camera and all the parts and devices are of well function.

【Notice】The lens should be CS mount and its mass should be less than 1kg, and the prominent part behind the mount surface should be less than 5mm.

【Notice】Please use a C mount adaptor for C mount lens.

2.1 Rear Panel

Connections for the rear panel：

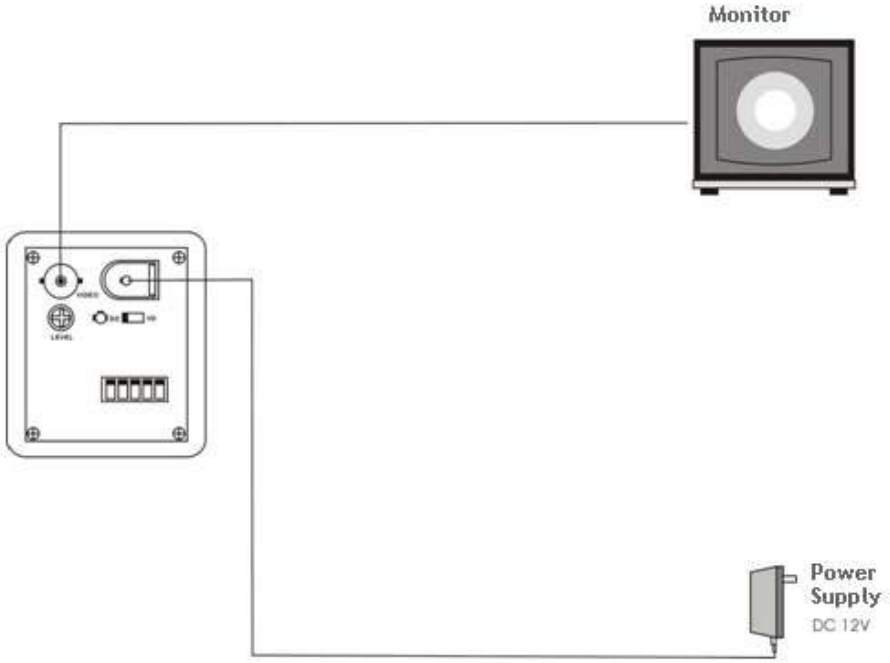


Figure 4

2.2 Power Supply

Please make sure that the power supply matches the camera before you plug it into the equipment. The usual charge is 12V DC or 24V AC. (For more detailed information about the types of power supply, please refer to the technology specification for each referenced camera types.)

Chapter 3 Specification

Table 1

Parameter \ Model	DS-2CC102P(N)(-A)	DS-2CC112P(N)(-A)	DS-2CC192P(N)(-A)
Image Sensor	1/3 inch SONY Super HAD CCD		
Signal System	PAL / NTSC		
Effective Pixels	PAL: 500 (H)×582 (V) NTSC: 510 (H)×492 (V)	PAL: 752 (H)×582 (V) NTSC: 768 (H) ×494 (V)	
Min. Illumination	0.5Lux @ F1.2		
Electronic Shutter	1/50 (1/60)s-1/100,000s		
Day & Night	Electronic		
Auto Iris Lens	DC / Video		
Lens Mount	C / CS mount		
Horizontal Resolution	420 TVL	480TVL	530TVL
Synchronization	Internal synchronization		
Video Output	1Vpp Composite Output		
S/N Ratio	More than 48 dB		
BLC	ON / OFF		
Working Temperature	-10℃--60℃		
Power Supply	12VDC, ±10%, "-A" series support12VDC / 24V AC, ±10%.		
Power Consumption	2W MAX ("-A" series 3.5MAX)		
Dimension (mm)	63×59×114		
Weight	550g		

Notice: "-A" illustration of support AC24V±10% / DC12V ±10% double power supply;

Dimension:

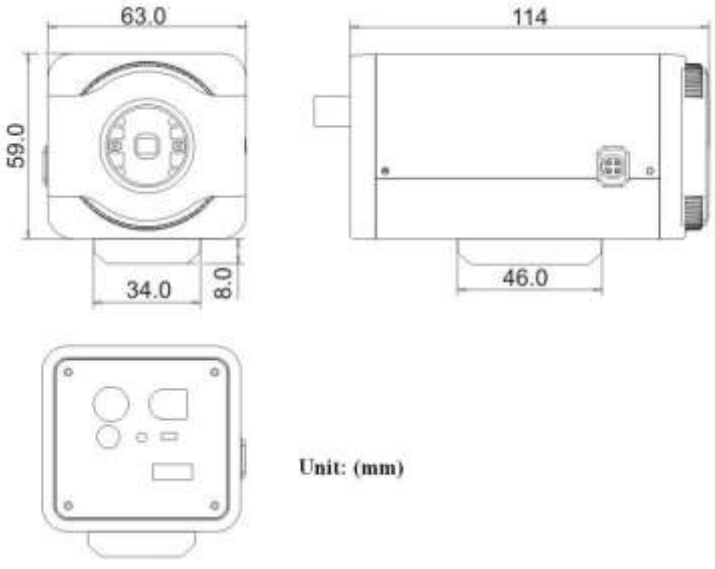


Table 2

Parameter \ Model	DS-2CC502P (N)(-A)	DS-2CC512P (N)(-A)	DS-2CC592P (N)
Image Sensor	1/3 inch SONY Super HAD CCD		
Signal System	PAL / NTSC		
Effective Pixels	PAL: 500 (H) ×582 (V) NTSC: 510 (H) ×492 (V)	PAL: 752 (H) ×582 (V) NTSC: 768(H) ×494 (V)	PAL: 752 (H) ×582 (V) NTSC: 768 (H) ×494 (V)
Min. Illumination	0.5Lux @ F1.2		
Electronic Shutter	1/50 (1/60)s~1/100,000s		
Day & Night	Electronic		
Lens	3.6mm @ F2.0 (2.8mm, 6mm, 8mm, 12mm, 16mm option)		
Horizontal Resolution	420 TVL	480TVL	530TVL
Synchronization	Internal Synchronization		
Video Output	1Vp-p Composite Output (75Ω / BNC)		
S/N Ratio	More than 48 dB		
BLC	ON		
Working Temperature	-10℃--60℃		
Power Supply	12VDC, ±10% , (-A) Support 24VAC / 12VDC		
Power Consumption	2W MAX		
Dimension (mm)	Φ138x87		
Weight	380g		

Notice: "-A" illustration of support AC24V ±10%/DC12V ±10% double power supply;

Dimension:

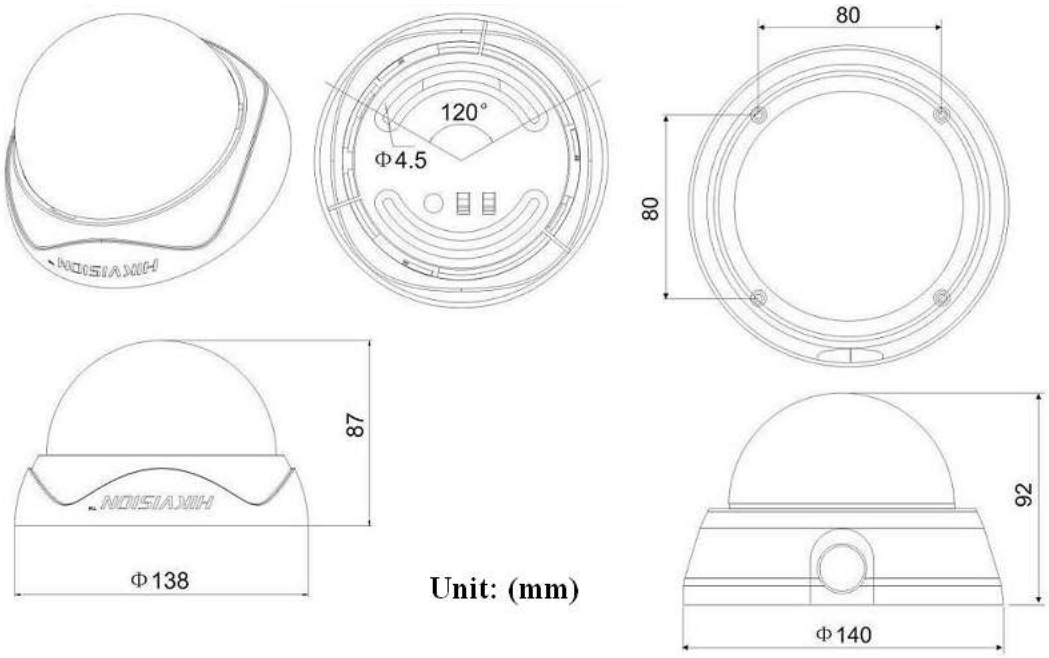


Table 3

Model / Parameter	DS-2CC102P (N) -MM	DS-2CC112P (N) -MM	DS-2CC192P (N) -MM
Image Sensor	1/3 inch SONY Super HAD CCD		
Signal System	PAL / NTSC		
Effective Pixels	PAL: 500 (H)×582 (V) NTSC: 510 (H)×492 (V)	PAL: 752 (H)×582 (V) NTSC: 768 (H) ×494 (V)	PAL: 752 (H)×582 (V) NTSC: 768 (H)×494 (V)
Min. Illumination	0.5Lux @ F1.2		
Day & Night	Electronic		
Electronic Shutter	1/50 (1/60)s-1/100,000s		
Auto Iris Lens	DC / Video		
Lens Mount	C / CS mount		
Horizontal Resolution	420 TVL	480TVL	530TVL
Synchronization	Internal synchronization		
Video Output	1Vpp Composite Output		
S/N Ratio	More than 48 dB		
BLC	ON / OFF		
Working Temperature	-10℃~60℃		
Power Supply	12VDC, ±10%		
Power Consumption	1.5W MAX		
Dimension (mm)	48×52×70		
Weight	400g		

Dimension:

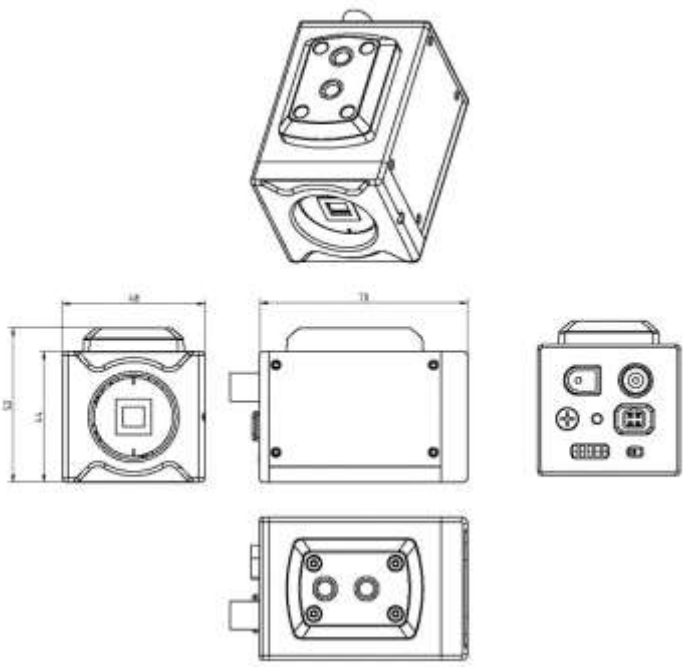


Table 4

Parameter / Model	DS-2CC511P (N)-Ax	DS-2CC591P (N)-A
Image Sensor	1/3 inch SONY Super HAD CCD	
Signal System	PAL / NTSC	
Effective Pixels	PAL: 752 (H) ×582 (V) NTSC: 768 (H) ×494 (V)	
Min. Illumination	0.5Lux @ F1.2	
Day & Night	Electronic	
Electronic Shutter	1/50(60)s~1/100,000s	
Lens	3.5~9mm Auto Iris Lens (2.8-11mm auto iris lens option)	
Horizontal Adjustment Range	0°~355°	
Vertical Adjustment Range	0°~90°	
Horizontal Resolution	480 TVL	540TVL
Synchronization	Internal Synchronization	
Video Output	1Vp-p Composite Output (75Ω /BNC)	
S/N Ratio	More than 48 dB	
White Balance	Auto	
BLC	ON / OFF	
Working Temperature	-10℃~60℃	
Power Supply	24VAC / 12VDC, ±10%	
Power Consumption	3.5W MAX	
Dimension (mm)	φ124×109.1	
Weight	400g	

Notice: "-A" illustration of support AC24V±10%/DC12V±10% double power supply;

Dimension:

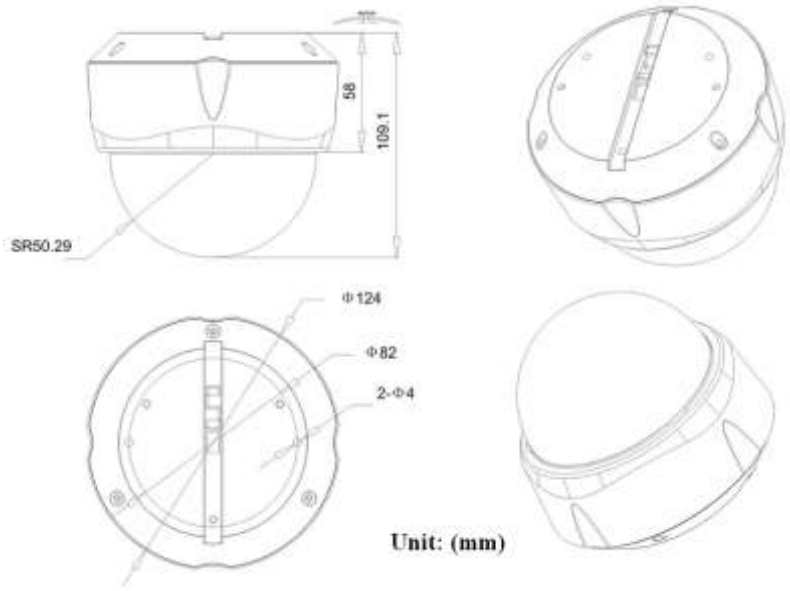


Table 5

Parameter / Model	DS-2CC502P(N)-FB	DS-2CC512P(N)-FB	DS-2CC592P(N)-FB
Image Sensor	1/3 inch SONY Super HAD CCD		
Signal System	PAL / NTSC		
Effective Pixels	PAL: 500 (H) ×582 (V) NTSC: 510 (H) ×492 (V)	PAL: 752 (H) ×582 (V) NTSC: 768 (H) ×494 (V)	PAL: 752 (H) ×582 (V) NTSC: 768 (H) ×494 (V)
Min. Illumination	0.5Lux @ F1.2		
Electronic Shutter	1/50 (1/60)s---1/100,000s		
Day & Night	Electronic		
Lens	3.5-8mm (4--9mm option)		
Horizontal Resolution	420TVL	480TVL	540TVL
Synchronization	Internal Synchronization		
Video Output	1Vp-p Composite Output (75Ω / BNC)		
S/N Ratio	More than 48dB		
BLC	ON		
Impact Protection	IEC60068-275 test, Eh, 50J; EN50102, exceeding IK10.		
Working Temperature	-10℃~60℃		
Power Supply	12VDC, ±10%		
Power Consumption	2W MAX		
Dimensions (mm)	φ140 ×92		
Weight	660g		

Notice: "-FB" illustration of support Vandal proof;

Dimension: